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10/670,602	09/26/2003	Jaakob Friedrich Kind	11884/401401	9905

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EXAMINER

RAPP, CHAD

ART UNIT PAPER NUMBER

2125

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/670,602

Applicant(s)

KIND, JAAKOB FRIEDRICH

Examiner

Chad Rapp

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-19 is/are rejected.
- 7) ☒ Claim(s) 9,10 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/11/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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1. Claims 1-20 are presented for examination.

***Information Disclosure Statement***

2. The prior art reference 6,983,187 should be provided on a proper PTO 1449 form so it can be considered. As of this office action no consideration was given.

***Allowable Subject Matter***

3. Claims 9, 10 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Lichtenberg et al. in view of Wongvasu et al. "Trie Representation for Expressing the Compatibility Between Items in a Logical Bill of Material Structure"(referred to as Wongvasu as here in after).

Lichtenberg et al. teaches the claimed invention (claims 1 and 4) substantially as claimed including a method for evaluation of selection conditions corresponding to variants of components in a configurable product, comprising:

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- a. Receiving a plurality of selection conditions defining permissible combinations of values of characteristics of the product is taught as the user provides information relating to his wishes(0379);
- b. Forming bit strings by applying the selection conditions to the bit matrix is taught as using bit-vectors(0011);
- c. The bit strings representing the permissible combinations is taught as bit-vectors represent all possible consistent configurations(0011);
- d. Performing logical operations on the bit strings to determine whether the selection conditions permit at least one and at most one of a variant of a component to be included in the configurable product is taught as all configurations are tested against rules and configurations that turn out to be consistent are enumerated in a list(0011);
- e. Outputting a result to a user is taught as providing this information to an user(0104).

Lichtenberg et al. teaches the above listed details of the independent claims 1 and 4, however, Lichtenberg et al. does not teach: forming a bit matrix containing information representing combinations of the values of the characteristic.

Wongvasu teaches:

- a. Forming a bit matrix containing information representing combinations of the values of the characteristic is taught as an inter-component compatibility matrix(see fig.1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because the Trie representations is comprehensive, easy to maintain and easy to understand.

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As to claim 2, Wongvasu teaches further comprising receiving a restriction on combinations of values of the characteristics, and forming a corresponding bit string is taught as invalid component realizations are represented in component realization strings(section 3 and fig. 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because the invalid strings reduces the amount of data held in memory which reduces memory storage cost.

As to claim 3, Wongvasu teaches further comprising forming a bit string containing information representing combinations of values of the characteristics that are neither covered by the selection conditions nor subject to a restriction is taught as using the anything in the bit strings(section 3.2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because allows to make strings smaller using anything rather than more then one for all the different strings anything would encompass.

As to claim 5, Lichtenberg et al. teaches wherein information in the bit matrix represents all possible combinations of values for the characteristics that are subject to the selection conditions is taught as finding all solutions to the configurations problem and tabulate them virtually in virtual table(0274).

As to claim 6, Lichtenberg et al. wherein the selection conditions are expressed as logical operations on the combinations of values is taught as representing each rule as a logical expression(0082).

As to claim 7, Lichtenberg et al. teaches wherein (b) comprises forming a first bit string corresponding to a first selection condition, the first bit string containing logic values representing combinations of values of the characteristics allowed by the first selection condition is taught as the chosen component are allowed if the path ends at a terminal node of a Boolean expression of true(0122).

As to claim 8, Wongvasu et al. teaches wherein (b) further comprises forming a bit string containing logic values representing forbidden combinations of the values of the characteristics is taught as invalid component realizations are represented in component realization strings(section 3 and fig. 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because the invalid strings reduces the amount of data held in memory which reduces memory storage cost.

As to claim 15, Lichtenberg et al. teaches further comprising a graphical user interface configured to enable a user to invoke an execution of the process via an input device, and receive a result of the execution of the process is taught as graphical user interface(0272 and 0385).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lichtenberg et al. in view of Wongvasu et al. "Trie Representation for Expressing the Compatibility Between Items in a Logical Bill of Material Structure"(referred to as Wongvasu as here in after).

Lichtenberg et al. teaches the claimed invention (claim 11) substantially as claimed including a system for evaluation of selection conditions corresponding to variants of components in a configurable product, comprising:

- a. A memory containing computer-executable instructions is taught as a computer program(abstract);
- b. A processor coupled to the memory to execute the instructions, the instructions when executed performing a process is taught as being computer assisted(abstract);
- c. Receiving a plurality of selection conditions defining permissible combinations of values of characteristics of the product is taught as the user provides information relating to his wishes(0379);
- d. Forming bit strings by applying the selection conditions to the bit matrix is taught as using bit-vectors(0011);
- e. The bit strings representing the permissible combinations is taught as bit-vectors represent all possible consistent configurations(0011);
- f. Performing logical operations on the bit strings to determine whether the selection conditions permit at least one and at most one of a variant of a component to be included in the

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configurable product is taught as all configurations are tested against rules and configurations that turn out to be consistent are enumerated in a list(0011).

Lichtenberg et al. teaches the above listed details of the independent claims 11, however, Lichtenberg et al. does not teach: forming a bit matrix containing information representing combinations of the values of the characteristic.

Wongvasu teaches:

a. Forming a bit matrix containing information representing combinations of the values of the characteristic is taught as an inter-component compatibility matrix(see fig.1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because the Trie representations is comprehensive, easy to maintain and easy to understand.

As to claim 12, Lichtenberg et al. teaches wherein the selection conditions are expressed as logical operations on values assigned to the characteristics is taught as representing each rule as a logical expression(0082).

As to claim 13, Wongvasu teaches the process further comprising receiving a restriction on combinations of values of the characteristics, and forming a corresponding bit string is taught as invalid component realizations are represented in component realization strings(section 3 and fig. 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because the invalid strings reduces the amount of data held in memory which reduces memory storage cost.



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As to claim 14, Wongvasu teaches the process further comprising forming a bit string containing information representing combinations of characteristics that are neither covered by the selection conditions nor subject to a restriction is taught as using the anything in the bit strings(section 3.2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because allows to make strings smaller using anything rather than more then one for all the different strings anything would encompass.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lichtenberg et al. in view of Wongvasu et al. "Trie Representation for Expressing the Compatibility Between Items in a Logical Bill of Material Structure"(referred to as Wongvasu as here in after).

Lichtenberg et al. teaches the claimed invention (claims 16 and 19) substantially as claimed including a machine-readable medium storing computer-executable instructions,

a. The instructions when executed performing a process for evaluation of selection conditions corresponding to variants of components in a configurable product is taught as the user provides information relating to his wishes(0379);

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b. Forming bit strings by applying the selection conditions to the bit matrix is taught as using bit-vectors(0011);

c. The bit strings representing the permissible combinations is taught as bit-vectors represent all possible consistent configurations(0011);

d. Performing logical operations on the bit strings to determine whether the selection conditions permit at least one and at most one of a variant of a component to be included in the configurable product is taught as all configurations are tested against rules and configurations that turn out to be consistent are enumerated in a list(0011).

Lichtenberg et al. teaches the above listed details of the independent claims 16 and 19, however, Lichtenberg et al. does not teach: forming a bit matrix containing information representing combinations of the values of the characteristic.

Wongvasu teaches:

a. Forming a bit matrix containing information representing combinations of the values of the characteristic is taught as an inter-component compatibility matrix(see fig.1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because the Trie representations is comprehensive, easy to maintain and easy to understand.

As to claim 17, Wongvasu teaches the process further comprising receiving a restriction on combinations of values of the characteristics, and forming a corresponding bit string is taught as invalid component realizations are represented in component realization strings(section 3 and fig. 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because the invalid strings reduces the amount of data held in memory which reduces memory storage cost.

As to claim 18, further comprising forming a bit string containing information representing combinations of values of the characteristics that are neither covered by the selection conditions nor subject to a restriction is taught as using the anything in the bit strings(section 3.2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Lichtenberg et al. with the teachings of Wongvasu because allows to make strings smaller using anything rather than more then one for all the different strings anything would encompass.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Rapp whose telephone number is (571)272-3752. The examiner can normally be reached on Mon-Fri 11:00-7:00.

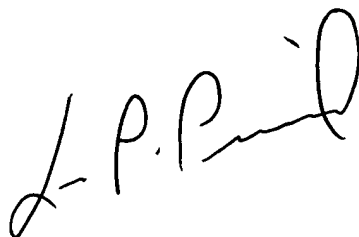
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571)272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Chad Rapp  
Examiner  
Art Unit 2125

cjr

A handwritten signature in black ink, appearing to read "L. P. Picard", written over a horizontal line.

LEO PICARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100